The CHEMIST

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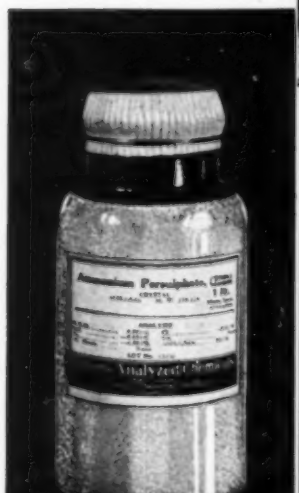

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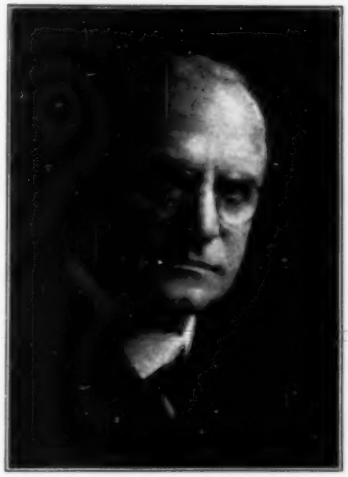

GEORGE EASTMAN

By C. E. Kenneth Mees

The following article was first published in the Journal of Industrial and Engineering Chemistry in 1925, and later issued in pamphlet form. Dr. Mees has rewritten it and brought it up to date for publication in The CHEMIST.

In an interview published some years ago, Mr. Eastman described himself as "an amateur photographer." The interview dealt especially with the *photographer*, with the growth and development of the business which Mr. Eastman created; but the characterization of George Eastman which is the most significant of the man is the word *amateur*.

Occasionally some writer, forgetting the history of his subject, writes disparagingly about amateur scientists. Grant Allen has an essay entitled "Mere Amateurs," in which he castigates a critic who dared to use the phrase "in the fatherland of Bacon, Newton, and Darwin." Presumably the critic thought that the word *amateur* was synonymous with *beginner* instead of meaning, as it does, one who does things for the love of doing them. Men do things for many reasons: to earn their bread, to obtain riches and luxury, to attain power, for the approval of their fellows; but the things that are done best are done for the love of the doing.

Chemists, remembering the development of their science, are scarcely likely to forget their debt to the amateurs who created it; and photography owes its existence and progress to amateurs. Fox Talbot, Scott

Archer, R. L. Maddox, George Eastman—all became interested in the taking of pictures, and in pursuit of their hobby worked out the improved processes and methods which are the milestones of photographic technic.

But Mr. Eastman is not only an amateur photographer. He is an amateur in half a dozen other fields, and all of them he pursues with that same enthusiasm and thoroughness which has made such a success of his photography. An enthusiastic camper, he has studied every detail of his camping kit and worked out improvements himself. For years he has been an amateur musician—as an auditor not a performer—and his interest led him to experiment in the teaching of music by building and organizing a school of music. He believes that the public at large should be taught to appreciate music. He built the School of Music at Rochester and the Eastman Theater, where music may be heard to the best advantage amidst pleasant surroundings by the people of Rochester. He has been a leading spirit in the organization of the Civic Orchestra, which is heard in symphony concerts each week by the school children and by the public at large. Many of the Rochester public schools have bands of their own, the instruments having been given by Mr. Eastman.

The building of the theater and the School of Music was followed by Mr. Eastman with the greatest interest, because Mr. Eastman is an amateur architect and builder and one of no mean order. What fun he had building that theater! Every part of it was studied; each growth was watched; and when it was being finished he all but lived there. He has erected many buildings in connection with his business, and the construction of most of these has been very closely supervised by him. The Kodak building in London is notable among the business buildings of that city, and although it was built by a famous architect, it owes a great deal to the suggestions made by Mr. Eastman.

In spite of the interest he takes in his work and his play, Mr. Eastman is no faddist. Some enthusiasts, especially some wealthy and successful enthusiasts, are full of fads and insist on carrying them out in everything they do. Mr. Eastman does not; he consults experts in his business, in his music, and his building; he secures the best advice available, and when he does something unusual it is due not to impulse, but to conviction founded on careful study and knowledge. Also, while his interests are wide, they are by no means universal. He becomes so deeply interested in certain matters that it is necessary to limit his attention in other directions. Mr. Eastman, for instance, believes pure science is useful both to the community and to his business, he has helped it greatly by his gifts and turns to it for advice when he needs it, but he himself has never studied deeply any branch of it.

He is a good man to work for and to work with—enthusiastic, critical,

strict, exacting. He can detect the vital point in a new problem in business with startling rapidity and clarity. Fifty years ago he started to make photographic plates, and for many years the Kodak Company absorbed his immense energy. Then, as he felt he could trust the men that he had gathered around him to take more and more responsibility, he decided to detach himself from the active direction of the business, and he characteristically tested the possibility of such a detachment by going to Africa for a long hunting trip. This new field of interest was such a success that it was followed by a second trip in order that he might add to his bag an elephant which he had failed to meet on his first visit and a white rhinoceros, which he was fortunate enough to find in spite of its rarity.

Mr. Eastman will always be an amateur—an enthusiast in everything that he undertakes and, not least, in photography and in that development of photography throughout the world which is the business of the Kodak Company.

BUSINESS ORGANIZATION AND MANAGEMENT

Notes from an address by Dr. Joseph P. Harmer, before the Philadelphia Chapter on April 1, 1930.

A partnership is a business agreement in which each partner is liable for the entire business. Hence, a corporation is preferable, since the liability of each individual in the business is limited.

In a new business credits should be limited. When embarking on a business venture, an analysis should be made beforehand, as thoroughly as in the analysis of an unknown compound.

A market analysis should also be made so that the seller can know the possible consumption of the article which is to be sold. There must be sufficient buyers, and the product must have certain merits.

The reasons for any purchase are:

(1) Monetary gain.
(2) Utility to satisfy a specific need.
(3) Personal pride, *e. g.*, good clothes.
(4) Caution—straight life insurance policy.
(5) The article is bought because buyer is convinced by salesman.

Any product should satisfy three of the above tests.

The salesman should know more about the product than the buyer. In order to be successful the salesman should place himself in the position of the buyer.

Since business is always for profit, the organization of the rest of the business is trivial as compared to the creation of a good sales department.

THE CHEMIST AND CHEMICAL MARKETS

By James N. Taylor[1]

Excerpts from an address, "The Commerce of Chemistry," delivered at Richmond, Va., May 2, 1930, before the Virginia Section of the American Chemical Society.

A glance at the pages of history will show the close relationship which chemistry has held with the advance of the race. From earliest times, as evidenced by Biblical records, as well as by the monumental records of Egypt, and the writings of Herodotus and Pliny, chemistry as an art played an important part in the life of *ancient* civilizations. Even as late as the 14th, 15th, and 16th centuries the alchemical system attained wide-spread favor, and, as in the ancient Egyptian temples, chemical laboratories were to be found in monasteries.

The chemist in the past has been somewhat inclined, like his illustrious predecessor, the alchemist, to lock himself up in his laboratory and keep his secrets to himself. In more recent years, however, he has come out into the light of day and now presents the results of his studies before meetings of our Society and publishes his results in our journals.

Comment upon the retiring nature of the alchemists' successors, however, should not be taken in any sense as decrying the dispositions of our "fathers in chemistry" or depreciating their labors. None of us would think of criticizing the scientific habits of Boyle, Priestley, or Berthollet; of Liebig, Kekulé, Pasteur, or of many of those who came after.

Many of these and other illustrious men did apply the results of their researches to practical ends, and the Industrial Revolution caused many industries to establish chemical laboratories at their own works. It was not until the trade associations came into being, however (particularly those forms of co-operative organization covering highly specialized fields), that Capital may be said to have pooled its resources with chemical science, looking toward the establishment of a community of interests. Scientific Sections were organized and technical research instituted and the beginnings laid for studies that were later to advance both chemistry and commerce. Today there is hardly a university in the country but has its fundamental and applied research available for industry or in the form of fellowships. For example, one well-known movement, sponsored by Capital and initiated and administered by Professor Duncan first at the University of Kansas, later manifested itself in the establishment in 1911 of the Mellon Institute at the University of Pittsburgh with Dr. Duncan as the first director.

[1] Dr. Taylor is Chief of the Organic Section of the Chemical Division of the Bureau of Foreign and Domestic Commerce at Washington. He was Chairman of the Washington Chapter of the Institute for several seasons, and represents that chapter in the National Council.

President Hoover, while Secretary of Commerce, in advocating and initiating the assembling of the $20,000,000 fund for research in pure science to be expended over a ten-year period by the National Academy of Sciences, insured, in his characteristic, practical way, the continuation of industry's source of strength.

Nevertheless, while fundamental research is necessary for further progress and while applied science must continue to be fostered, the resulting products of discoveries and inventions so made must be distributed in order that those who wish them may have the opportunity to get them. It would seem therefore that just as the second phase of the Industrial Revolution called for the more intensive services of chemistry, so today in still another phase of our industrial life, a new science has developed, calling for a sympathetic understanding between chemistry and commerce, a mutual relationship between chemical production and distributive media.

So the industrialist of vision establishes and maintains a department not only devoted to working out problems involving plant operations but also the co-ordination of this department with other technical departments and with the development and sales organizations.

At the last New York meeting of the American Association for the Advancement of Science, Dr. Redman presented a very interesting study in which he discussed mortalities in the several stages of a product between the time of invention and the time of successful distribution. While one would not go so far as to say that all of these deaths could be averted, it seems reasonable to presume that economic research should diminish the casualties. Obsolescence, the price of progress, can certainly be met just as problems of supply and distribution are met and surmounted.

This necessity for a larger knowledge of economic conditions as they affect the chemical industry has evolved a new order of workers made up in large measure of those possessing both commercial and chemical training. It has introduced a new chemist classification.

Perhaps it may not be necessary for the chemical marketing specialist to have a chemical training, but basic knowledge of chemical science and its nomenclature should be extremely helpful in considering the fundamental aspects of chemical processes, the relation of one product to another, the possibilities for new and more efficient applications of them, as well as a more intelligent understanding of economic and commodity trends. Through these influences and trends, chemistry is recognized as basic to all industry and *chemical* industry today exercises a profound influence upon the *political* economy of the world.

Economic trends of commodity tendencies may be caused by several factors, among which may be noted: (1) the influence of other industries upon chemical evolution and (2) the intrusion of synthetics into fields

of use already occupied by natural products. To these factors of outstanding interest to the chemist may be added (3) those of availability of natural resources, and (4) waste and co-product utilization.

Consider how the automobile has affected chemical trends. It has caused a demand for more durable materials, for new and brighter colors, new and better protective coatings, and these latter have demanded solvents answering certain exacting specifications. The automobile industry is responsible for the development of anti-knock agents used as motor fuel constituents and for the increased production of artificial leather.

Another industry that has affected the trend of certain chemical commodities is the rayon industry. Rayon—itself a group of chemical compounds—has exercised an influence over cellulose and the acids, both nitric and acetic.

Utilization of wastes and collateral products is constantly changing our ideas as to what are main products and what are by-products. Once kerosene was the principal product of a petroleum refinery. Hydrochloric acid at one time was allowed to escape as a waste gas. The oils obtained from by-product coke ovens are today in as great demand as the residual product of distillation. Chemical history is replete with these reversals in relative economic importance of manufactured products.

The consequent appearance of new products and the larger application of both old and new ones has brought about a situation not comparable with that of any previous period in history.

The magnitude and scope of chemical industry today is tremendous when compared with that of a hundred years ago; indeed, within the past quarter of a century. Just a few outstanding examples are: acetic acid, nitric acid, sulphuric acid, mixed acids, all sodas and compounds, alums, cyanides, fertilizers, paints and varnishes, explosives and plastics. Sulphur, rayon, medicinal and toilet preparations, crude drugs, essential oils, waxes, matches, and a multitude of other commodities have also seen a remarkable development.

The synthetic organic chemical industry now constitutes a key industry and occupies an important position in the chemical life of the nation. In 1880, when the first mention was made in the Census returns of coal-tar dyestuff manufacture, production amounted to 80,518 pounds of aniline dyestuffs. Expansion since the World War presents a magnificent record, preliminary figures for 1929 indicating the production of domestic dyes to have been approximately 110,200,000 pounds. Production of organic photographic chemicals totaled 581,000 pounds; synthetic flavors, 2,290,000 pounds; synthetic perfume materials, 1,596,000 pounds; synthetic phenolic resins, 31,471,000; and synthetic coal-tar medicinals, 5,000,000 pounds.

A story of the expansion of our foreign trade would also read like a romance. Today the world is our market place and we are sending to all parts of the globe, chemicals and allied products valued at over 200,000,000 dollars a year. On the other hand, our imports of materials for use in chemical and allied lines aggregate over 200,000,000 dollars annually, two-thirds of which are either exotics or supplements to our inadequate domestic supplies requisite for the promotion of our industry.

The saturation point is not in sight. Production is limited only by human needs and desires and our economic horizons are constantly being pushed back in order to supply the rational cravings of teeming millions not yet acquainted with modern necessities, to say nothing of some of the luxuries.

The forward movement in American industry has been accelerated in recent years by a greater Southern participation. The creation of a new South, a new industrial South, has resulted from a recognition of its vast potential resources and the availability of cheaper power and new methods and lines of transportation. Other contributing factors are the supply of native labor, freedom for expansion, and widening markets.

The textile industry particularly has exhibited a southward movement and the processing of natural fibers and the manufacture of artificial ones—essentially chemical processes—has been an important development. The cheese industry since the practical eradication of the cattle tick has moved in a southerly direction. Coincident with these migrations there has been the establishment of other new industries. Expansion of old ones is reflected in the carbon black and the naval stores industry; and to the vegetable oil industry has now been added Florida tung oil. Finally, to supplement increased phosphate rock production we have another fertilizer material—fixed nitrogen—added to the South's list of products. Carbon bisulphide is expanding, diphenyl is no longer a laboratory curiosity, and cotton seed bran, the lowly peanut-hull, and the Jerusalem artichoke will probably be converted into xylose on a commercial scale.

Virginia now occupies a leading position in the production of chemical and allied products. "Down Where the South Begins," it has entered into a new age. Already known as the "Mother of Industry on the American Continent," the State in which were established the first salt plant, the first glass works, the first leather tannery, now has added another type of "first," first in production of rayon.

A booklet recently issued by the Virginia State Chamber of Commerce impresses one with the great potentialities awaiting development.

Not only is the Hampton Roads Port a natural gate of ingress to the West and South, but it is one through which a steadily increasing outflow of all sorts of materials will find their way to foreign fields. The Hampton

Roads Port is especially favored by its location and the nearness to the East and West coasts of South America, and by the territory which it is capable of serving as a shipping point of goods destined to Latin America, a market of great importance. Mutual requirements of this area and the United States should ensure cargoes coming and going.

In the export studies included in the traffic survey previously mentioned is one on coal and the thought occurs that some could be processed in ovens and the by-products utilized. Coke production could mean a metallurgical industry. Increased tar production could mean more road materials and more domestic creosote with a short haul and perhaps an expanded creosoting industry. The manufacture of other products ranging from crudes to finished products, from motor fuel constituents to dyestuffs, is worthy of consideration; the import study of cacao beans suggests theobromine, caffein, and fine chemicals. The molasses study suggests not only industrial alcohol but also the booming solvents industry. Reflection upon the pork and pork products study visualizes slaughtering and packing-house activities, with consequent production of biologicals, soaps, and glycerine.

Suggestions such as the few just given inadequately present the possibilities. The historical glance *backward* has shown us the great forward strides made since earlier times by American Chemistry. We are quite aware too that scientific discovery and invention are proceeding at an ever-increasing rate and in the light of history our progress in the future is to be more rapid than in the past. Could we but transport ourseives into the future—let us say to 1950—we would, no doubt, be amazed at what had transpired in the intervening score of years.

The functions, then, of *chemistry-in-the-future* must be more comprehensive than at present and must certainly embrace an understanding of its economic importance. The service of chemistry must be not only in the discovery and the application of scientific and technological facts but also in the solving of larger problems of distribution in its broadest sense. We must lay more emphasis upon the *commerce* of chemistry, and upon the economical distribution of chemical wares.

It is not enough to visualize the great potential awaiting development—to view the perspective—and stop at that. Practical and efficient methods for bringing about the desired ends must be formulated and, happily, the chemical industry itself, as well as Governmental institutions, has made a beginning along this line.

A general method of approach, capable of specific application, of arriving at a program of effort, is through the *chemical-economic survey*. Such a survey, when completed, should show fairly conclusively whether or not a given material shall go into production, how long an industry can continue

its current program, whether it should switch immediately or gradually, or whether it should pick up and move to some other part of the country.

The Department of Commerce, because of its relation to other Government establishments and to industry, has at hand or can point the way to the many sources of information so important in determining the position or status of a specific chemical industry or commodity, or in determining their trends. Co-operation in this respect is gladly accorded through Chemical Division of the Bureau of Foreign and Domestic Commerce, which, established eight years ago by Mr. Hoover when he was Secretary of Commerce, endeavors to render practical service in the application of commerce to chemistry.

Mr. Charles C. Concannon was installed as Chief, and under his capable direction the Bureau has prospered and made an important place for itself as a very valuable clearing house for any and all information pertaining to trade conditions at home and abroad.

The functions of the Division are essentially trade promotive and do not include any of a regulatory nature. Through regional surveys and immediate services, available in 58 American cities, the Bureau assists domestic commerce. To promote foreign commerce the Bureau also has available the services of its 56 offices abroad and the collaboration of the consular service.

The information thus made available covers a multitude of points: magnitude of the market, physical conditions of the country, ports, and a comparison of the situation as affected by foreign competitors; climatic conditions; advertising; make-up and habits of the population; purchasing power; chemicals and allied products manufactured locally or other sources of supply. Questions related to transportation facilities, customs tariffs and internal regulations affecting the importation or sale of American products in over-sea countries are looked into and reported upon.

In addition, the Bureau maintains lists of prospective agents in each country and keeps a complete commercial report on each one for the confidential use of American firms. Up-to-date information is not only given regarding trade conditions, but each week the Bureau publishes a number of *Trade Opportunities* which are inquiries from parties with a definite interest in buying who wish to get in touch with manufacturers here.

A thousand men are at your service in the four corners of the world to gather together data bearing directly upon foreign trade promotion and at the Washington headquarters, and the district and co-operative offices throughout the country you will find the Department's facilities at your disposal.

NOTE: All that is recounted in this paper implies the necessary employment of an enormous number of chemists. Think of the prospective recruits for the Institute. —*Editor.*

THE NATIONAL COUNCIL

The seventy-second meeting of the Council of the American Institute of Chemists was held at The Chemists' Club, 50 East 41st Street, New York, N. Y., on Friday, April 18, 1930.

Because of the absence of President Frederick E. Breithut, on account of illness, Dr. William M. Grosvenor presided. The following councilors and officers were present: Messrs. M. L. Crossley, H. S. Neiman, C. K. Simon, F. W. Zerban.

The minutes of the previous meeting were approved.

The Treasurer reported a balance of $1,160.74, with all bills paid to date.

The Secretary was directed to send a letter to all delinquents that unless dues are paid on or before May 1st, they will be dropped from membership and their names removed from the mailing list of *The* CHEMIST, and they will not be entitled to attend the annual meeting, the annual dinner and medal award.

Dr. Grosvenor, Chairman of the Licensing Committee, reported that there is an increased interest in the recognition of the importance of uniform licensing systems, not only for chemists, but for all professions.

The Secretary was directed to write the chairman of all committees that they must make a written report at the Annual Meeting and also that he should write the Chairman of each Committee ten days prior to each Council meeting that a report will be expected.

The Secretary read a letter from L. E. Westman, Secretary of the Canadian Institute of Chemistry, requesting that specimen copies of *The* CHEMIST be forwarded to the members of the Canadian Institute. The Secretary was requested to determine the number of extra copies of *The* CHEMIST available for this purpose, and to dispose of them as he saw best.

Miss Wall presented a written and verbal report of her activities relative to *The* CHEMIST.

For the names of new members elected, see page 27.

There being no other business to present to the meeting, adjournment was taken.

HOWARD S. NEIMAN,
Secretary

Please pass this copy of *The* CHEMIST on to some eligible chemist who is not yet a member of the Institute. Additional copies and an application blank may be obtained from the secretary, Howard S. Neiman. See form page 32.

GROWING PAINS

The very large attendance, which taxed the capacity of the meeting room was a fitting compliment to Mr. Frederick J. Hambly, President of the Canadian Institute of Chemistry, who had come from Canada especially to address the New York Chapter on April 4th. It was also evidence that interest in the organization of professional chemists is not merely academic, and that members of the American Institute of Chemists were glad to have first-hand information on the origin, aims, and accomplishments of two foreign organizations similar to our own.

Dr. Crossley first introduced our own member, Dr. Hans T. Clarke, of the Medical Center, New York, a Fellow of long standing in the Institute of Chemistry of Great Britain and Ireland, who discussed briefly the history of that first of all professional chemical organizations.

"The British Institute," as we are rather inclined to nickname it, was founded in 1877 for much the same reasons as those which initiated the American Institute of Chemists: to elevate the status and maintain the efficiency of practising chemists; and to secure adequate personal recognition and financial compensation commensurate with the type of man a chemist must be.

The needed reforms were to protect chemists in consulting work, and especially in analytical work, because under the then recent Food and Drug Act of 1875, allowable charges were below even the most meager living wage. According to this act, for instance, the minimum fee for the analysis of an article of food offered to the public was 2*s*.6*d*. (about 62 cents), and the maximum fee was 10*s*.6*d*. (about $2.50)—an absolute guarantee that no one could grow very fat in such work.

There was much discussion at the time of the relation which this new organization would bear to the Chemical Society, which had then been in existence about thirty years. The relationship worked itself out, however, and seems to be analogous to the difference between the American Institute of Chemists and the American Chemical Society. Fellowship in the older Chemical Society demanded no diploma of competence in chemistry—nothing beyond an interest in the promotion of chemistry as a science, whereas the new organization was definitely concerned with the economic and professional status of those who practised chemistry.

In 1885, Queen Victoria granted the charter which empowered the Institute to demand examinations and give certificates for chemical proficiency. The examinations are in several classes of chemical work: organic, physical, biological, agricultural, industrial, foods, drugs, and water chemistry, etc. Chemists are admitted to examinations in these various classes, and satisfactory completion admits the candidate to the degree

of Associateship in the Institute, with the right to use the initials *A.I.C.* after his name.

Dr. Clark spoke from his personal experience in these examinations which are essentially different from any other type. The candidate is kept for two days on the examination proper, in English, foreign languages, and mathematics, as well as chemistry, and for the rest of the week is kept in the laboratory on practical problems. He is allowed to draw freely on the excellent library of the Institute, and on the laboratory supply of chemicals and apparatus; the only restriction is that he is not allowed to communicate with other examinees. The examinations are thus designed to be eminently practical.

After three years of acceptable practical experience, an Associate may be admitted to full fellowship, and use the initials *F.I.C.* after his name. A third group of membership comprises students in some college accredited by the Institute, of which there are fifty-eight in the British Isles, and eleven in other parts of the Empire. The firm support of the University people in the early days of the organization assured proper appreciation of professional chemistry for future generations.

On the occasion of its fiftieth anniversary in 1927, the Institute of Chemistry showed a very gratifying balance in growth and accomplishments. The membership (1928) numbered 5468 Fellows and Associates and nearly 700 students. It occupies its own building at 30 Russell Square, London, where it maintains a fine library, courses of lectures, well equipped laboratories, a register of its members, and a very efficient employment bureau—all of which are accessible to its members at any time. (In contrast to a membership of less than 5000 in the older Chemical Society, this condition of affairs is very satisfactory.) It publishes a journal of its proceedings, an imposing roster, and frequent other books and pamphlets on subjects of interest to members.

The Institute is very active in public affairs which have to do with chemists. Its qualifications are recognized by the government authorities, and membership in the Institute is required of chemists who aspire to certain positions in the government service.

One point which is continually being stressed by the Institute is that its membership is primarily that of a professional organization, rather than in the nature of a trades union. They insist that the science must come first, but they must still perform some of the functions of a trades union. A serious problem is the limiting of the use of the term *chemist*, which by law now belongs to the professional apothecary or druggist. Recently there has been an agitation for reclassification, and limiting the use of the term by pharmacists.[1]

[1] An article, THE ETERNAL QUESTION, in *The* CHEMIST, April 1929, discusses the recent position of the Institute on the licensing of chemists in Great Britain.

In concluding his remarks, Dr. Clarke spoke in highest praise of Mr. Richard B. Pilcher, the present Secretary of the Institute, whose unremitting zeal, activity, and loyalty have been largely responsible for the present flourishing condition of the organization.

Dr. Crossley, in thanking Dr. Clarke, expressed the hope that he will help the American Institute of Chemists as much as possible from his experience in the older organization. And then he introduced Mr. Hambly, who is also a Fellow of the Institute of Great Britain, and whose varied experience as teacher, industrialist, and executive furnishes a splendid background for his post as President of the Canadian Institute of Chemistry.

Mr. Hambly at once disclaimed any intention of boasting of what his Institute has been doing; rather he wished to set before us the difficulties which it had had to face, and tell us what it had been able to do in surmounting them.

He feels a great need for such organizations of professional chemists beyond what is offered in other chemical societies, which aim to advance interest in the science of chemistry and exact no further qualifications of their members than a declared interest in the objects of the society and an undertaking to pay the membership fees.

"But in addition to membership in a chemical society having for its objective the general advancement of the science, we, as individuals who have adopted the practice of chemistry as our life work, sooner or later discover the desirability of an organization to define, maintain, and advance the *profession* of chemistry.

"The objectives of such a professional organization cannot be better or more concisely stated than on the cover of your own January bulletin and I offer the suggestion that you should retain this admirable statement in the same position for all future issues of your bulletin.[1]

"To give chemists professional solidarity.
To put the profession back of a definite code of ethics.
To insist on adequate training and experience qualifications.
To educate the public to an understanding of what a chemist is.
To protect the public and the profession by fighting quackery.
To raise the economic status of chemists.

"Dr. Crossley's paper as published in your January bulletin states these issues so clearly that it would be superfluous to add my comments except as illustrated by our experience in Canada.

"I also appreciated keenly a statement from the last page of your February bulletin: 'The American Institute of Chemists aims to make human beings out of chemists.'

"We all have to admit that the specialist who does not cultivate human contacts is often an almost impossible individual outside of his professional sphere. The chemists who get along are those who do their chemistry, but who do more besides. You miss opportunities if you do not mix with your fellow-men."

[1] Many thanks for this timely answer to the regular question: "What on earth shall we have on the cover?"—*Editor.*

And then he told a story, quoting an ex-opera impresario who, after experience during the War in correlating chemical activities, decided that opera singers are far less temperamental than chemists.

Mr. Hambly brought out a few points about the British Institute which had not been mentioned by Dr. Clarke: for instance that for ten years prior to 1877 there had been heated discussion in England as to whether or not the Chemical Society of London could be a professional body. Finally, enough chemists were found to agree that such restriction was neither practicable nor desirable and the Institute was organized.

The Canadian Institute of Chemistry grew out of the desire to furnish chemists in Canada with some means of personal and professional contact with one another. Before the war their position had been one of comparative isolation: many of them belonged to Canadian Sections of the Society of Chemical Industry, and to organizations in England and the States. In 1918, at a Convention of Canadian Chemists held in Ottawa under the auspices of the Society of Chemical Industry, a committee was appointed to study the possibilities of establishing in Canada a branch of the British Institute.

It was decided, however, to form an independent Canadian Institute of Chemistry with an organization and membership qualifications patterned on those of the British Institute, with modifications to meet Canadian conditions. The first Council was elected in 1919, and a Dominion charter was granted in 1921, with membership qualifications:

ASSOCIATES must be at least twenty-one years of age, must hold a degree with chemistry as a major subject, and have had a year's experience subsequent to graduation. Provision is also made for admission of chemists who hold no degree, by passing examinations held by the Institute, following evidence of preliminary education, special training, and eight years' experience.

FELLOWS are elected from Associates of four years' standing, who pass an examination in a special *branch* of chemistry, or submit evidence of research, processes, inventions, or special experience equivalent to the requirements of the examination. Other applicants for the Fellowship must be at least thirty years of age with equivalent qualifications evidenced by examinations or experience.

Students who submit evidence of preliminary education and declare the intention of qualifying for the associate membership, are registered as Student Members.

The Code of Ethics, adopted in 1924 is similar to that of the American Institute.

The Council is composed of members from each province of Canada, with rotational retirement of one-third the number each year, and retiring members are not eligible for immediate re-election.

Official announcements are published in *Canadian Chemistry & Metallurgy* whose editor, Mr. L. E. Westman, is also the secretary of the Institute. There is an efficient employment register for members, and the

Institute is actively interested in public affairs, tariff questions, civil service chemical appointments and rates of remuneration, chemical education, and legislation for chemists. Sections have already been established at Montreal, Toronto, Ottawa, Winnipeg, and Vancouver, and a students' branch at Queen's University, Kingston, Ontario.

Mr. Hambly feels rather strongly on the subject of proper chemical education, which is, in his opinion, the clue to attaining the objective of all these Institutes—"To educate the public to an understanding of what a chemist is." He feels that too much stress is laid on educating the *public*, and not enough on proper education of the future public who are the *students* of today. The present public will have to worry along with what we can teach them through the newspapers, but the hope of the future lies in instilling into present students the value of chemistry—and chemists.

Every professional chemical body is concerned with the inadequacy of certain courses of chemistry as it is now taught in schools. Many students, who take no advanced chemistry, receive no training beyond what conforms to the general schedule for inorganic chemistry as it stood forty years ago. They know practically nothing of the organic chemistry or industrial chemistry which forms the basis of so much of our modern life. In school teaching, too much stress is laid on meeting the requirements of university entrance examinations, and many of these examinations are not very practical for present-day needs. Mr. Hambly paid a tribute to Dr. Neil Gordon, Editor of the *Journal of Chemical Education*, whose journal is filling a long-felt need for proper discussion of this subject.

Whereas the British and the American Institutes are still considering what to do about the license question, the Canadian Institute has already faced this issue, and has met with difficulty, because of the confusion of just what a *chemist* is.

No argument can talk down the fact that according to law "*a chemist is a person qualified to sell certain poisons under the Pharmacy Acts.*" British pharmacists just love that title and the public at large has no very clear idea of any distinction. Mr. Hambly's idea is that a little diplomacy might bring about an adjustment; that pharmacists who are chemists should be taken into the fold of the chemists' organizations.

"The *chemist* requires a wider and more strict training, but it is my own personal view that we must not try to restrict too much the practice of the elementary processes and principles of chemistry, because they are becoming as essential in the ordinary life of an individual as is a knowledge of elementary bookkeeping. It would be absurd for chartered accountants to claim that all books must be kept by a certified accountant; and it is equally futile for an organization of professional chemists to claim that all chemical operations must be conducted by professional chemists. Just as business institutions retain a chartered accountant for advice on bookkeeping methods and for their audits, just so is developing the specialized work of professional consulting chemists.

"Certified statements of analyses, reports, etc., are of value only when one has definite knowledge of the qualifications and responsibility of the person who signs them; a signature alone is not of value unless you know something more about the person. A professional association like our own has its advantages, when it has built up a reputation which will give weight to the official signature of its members. But to obtain anything in the nature of recognized *legal* status, chemists must work province by province, just as you must work through your individual State legislatures."

Mr. Hambly told something of what has been done by engineers in obtaining legislation in Canada. While there is a well organized and influential "Engineering Institute of Canada," independent Provincial Associations of Engineers have been formed in order to obtain legislative action in each Province of the Dominion. The measures obtained to date are only partially satisfactory on account of varying rights granted and some of the Provincial Associations are now seeking further definite restrictive powers. At the recent annual meeting of the Engineering Institute a significant plea was made for closer co-ordination of the Provincial Associations with the Dominion organizations.

Chemists are particularly interested in these efforts of the engineers to obtain restrictive legislation on account of the difficulty in making distinction between the respective spheres of the chemist, and the chemical engineer. In the Province of Ontario, for instance, "professional engineering" includes

"The advising, reporting on, designing of, and supervision of the construction of chemical and metallurgical machinery, apparatus, *and processes*."

The Canadian Institute is thus confronted by the problem that any further proposals to restrict legally the "reporting on chemical processes" to registered chemical engineers, must be opposed by chemists until some mutually satisfactory legal distinction can be made between the province of the chemist and the chemical engineer.

The only attempt on the part of Canadian chemists to obtain a legal status has been made in the Province of Quebec and the results to date have not been satisfactory. As a Dominion organization the Institute was unable to take direct action, but a small majority of its Quebec members formed, for this purpose, "The Association of Professional Chemists of Quebec" and obtained an Act in 1926 in which professional chemistry was legally defined as:

"The practice for hire, gain, or hope of reward of any branch of chemistry, including organic, inorganic, metallurgical, biological, and analytical chemistry."

This definition was considered by the general membership of the Institute to be so wide as to be ineffective for the objects desired;" at any rate by the time all the exceptions were provided for, covering " 'Coal Mines Regulation Act,' 'Metalliferous Mines Inspection Act,' 'Pharmaceutical

Act.' 'Professional Engineers of Quebec,' holders of diplomas from the Polytechnic School, and from the Faculty of Applied Science of McGill University, and members of the professions of pharmacy and medicine," the bill was of very little value. It did, however, cover the right of members to the title *chemist*, to hold examinations, and to restrict the title of "professional chemist" to members of the organization.

Last year, those who were pushing legislation abandoned the absurd definition as given and substituted one to the effect that "A professional chemist means any person registered under the Act," which was an improvement. When they came to restricting it so that "no persons other than those registered shall be entitled to describe themselves, or to be described, as professional chemists, chemists, or by any other form, phrase, or abbreviation, conveying or suggesting or intended to convey or suggest that possession of such qualifications etc., etc.," they were strongly opposed by the Canadian Manufacturers' Association, and many prominent chemists of Quebec. Even the University professors were divided on it, and the net result was a set-back, from trying to push the matter to limits which antagonized many who were otherwise in sympathy with the general object of giving legal status to the professional chemist.

In actual numbers the Canadian Institute is small. At the end of its first year, the membership comprised 166 Fellows, 39 Associates, and 50 Students; in 1930 there were 229 Fellows, 131 Associates, and 62 Students—an acknowledged disappointment, yet the Council feels that it is imperative to maintain the high standards of membership. The situation in Canada, where there are comparatively few chemists scattered over an enormous tract of territory, is necessarily different from conditions in England. The Council holds four meetings a year, and pays the traveling expenses of its more distant members to ensure their presence for the promotion of general unity of Canadian chemists. The annual meeting takes place at the same time and place as the Annual Convention of Canadian Chemists, which will be held this year at Ottawa, May 26–28, and Mr. Hambly assures a hearty welcome to any members of the American Institute who can pay them a visit.

The Council of the Canadian Institute unanimously decided at its latest meeting: that further attempts at legislation be indefinitely postponed; that any encroachments on the rights of professional chemists by provincial engineers be opposed; and that special efforts be made to increase membership without any lowering of the standards of the Institute.

The two talks gave much food for thought. It was obvious that the American Institute has much to learn from the trials and tribulations of the older organizations, especially in the matter of legislation, which must not be pushed hastily or recommended lightly.

One point of prestige enjoyed by the British Institute was mentioned by Mr. Hambly, and discussed by Dr. Crossley: that in a recent patent case involving the Imperial Chemical Industries and the German I. G., the President of the Institute of Chemistry of Great Britain was invited to sit on the bench with the judge so that the latter could have the benefit of expert opinion on the chemical matters involved.

A HINT FOR OHIO

John J. Over sent us this clipping from *The Cleveland News:*

Fire Wardens and Science

"This newspaper has urged repeatedly a reorganization of the city fire-warden's office so as to bring in some men whose training will enable them to cope with the chemical hazards with which a large industrial city is filled.

"Firemen, promoted to the fire-warden's office, do not ordinarily possess this kind of training. In fact, some of them are men of such limited education that their mis-spelled reports are hardly legible.

"Perhaps you imagine it would be too expensive to hire chemists for this work. Well, let's see. In the city laboratories chemists get from $1800 to $2400 a year. Fire wardens get $2812 a year. Some of these $1800 a year chemists might be pleased to get $2812.

"These figures do not of course indicate that the wardens are paid too much. They plainly show that the city's scientific help is paid too little. The city's bacteriologists, to cite another example, get from $1600 to $3000 a year, the average being about $2100.

"It is a disgrace to maintain a department of fire prevention in which there are no scientifically trained men. It is also a disgrace for the city to maintain its scientists in other departments at such wages.

"The scientists obviously are not organized as a political force. They are not unionized. City Manager Morgan will never be tendered a banquet by Harry McLaughlin for promoting some chemist or raising some bacteriologist's pay. But we urge him to take up with Council the question of doing justice to this class of employees as well as the question of organizing a fire prevention bureau equal to its task."

An account of what the Institute has done for municipal chemists in New York will be published in the next issue.

One might wish that our Institute members in Ohio (and elsewhere—"Buffalo and all points west") would be inspired to organize, increase and multiply, and *do something* to remedy the conditions cited above.

NEWS OF THE CHAPTERS

New York

The meeting was held at 8 P.M., April 4, 1930, in the dining room of The Chemists' Club, 50 East 41st Street, New York City. Dr. J. F. X. Harold reported for the nominating committee the following nominations:

Chairman: Frederick J. Kenney and Frederick W. Zerban.

Vice-Chairman: Benjamin T. Brooks and Thomas A. Wright.

Secretary-Treasurer: Leon V. Quigley and W. R. Minrath.

National Council: Karl M. Herstein and Daniel P. Knowland.

Chapter Councilors (two to be elected): George Barsky, Charles R. Downs, Morris A. Pozen, and P. J. Wood.

The Chairman appointed L. A. Van Doren and L. V. Quigley to audit the Treasurer's books and report to the Chapter at the meeting on May 2, 1930. No other business was transacted.

Dr. M. L. Crossley, Chairman, introduced Dr. Hans T. Clarke, who spoke briefly but very illuminatingly on the organization and work of the Institute of Chemistry of Great Britain and Ireland.

Following Dr. Clarke, Mr. F. J. Hambly, President of the Canadian Institute of Chemistry, was introduced. Mr. Hambly had come to New York especially to address this Chapter meeting. He told in detail the work of the Canadian Institute of Chemistry.

A record gathering of Chapter members and their guests heard the speakers with great interest, and at the conclusion of the addresses and of the discussion, testified their pleasure by a rising vote of thanks to both speakers.

KARL M. HERSTEIN, *Secretary*

Philadelphia

A very well attended meeting of the Chapter was held at the Engineers' Club, on Tuesday evening, April 1, 1930.

Dr. Arnstein reported on the proceedings of the Council meeting.

Dr. Lukens and Mr. Bertolet reported on the arrangements they have made for the national meeting to be held here, May 10, 1930.

The following officers were elected for the ensuing year: Franklin D. Jones, Chairman; E. F. Cayo, Vice-Chairman; Benjamin Levitt, Secretary; Wm. S. Berry, Treasurer; E. F. Cayo, National Councilor.

The meeting was then addressed by Dr. Joseph P. Harmer, who spoke on "Business Organization and Management." A résumé of this address appears on another page. After discussion of the paper the meeting adjourned.

It was decided to hold a special meeting April 29th, to make final preparations for the national meeting.

BENJAMIN LEVITT, *Secretary*

EMPLOYMENT NOTES

The Bureau of Employment of the Chemists' Club is co-operating with the American Institute of Chemists, so that some of the better positions listed with the Bureau may be brought to the attention of Institute members. The Bureau welcomes correspondence with anyone interested in the following openings:

1150 Chemist with actual experience in physical or colloidal work for research.

1151 Research chemist with actual experience in the field of rubber chemicals. Should be capable of handling independent research.

1155 Metallurgical engineers, recently graduated, for metallographic research.

1166 Men with experience in the manufacture of pigments, for research work.

1171 Chemist with both research and commercial experience in chemistry of butter substitutes, shortenings, etc.

1173 Chemical engineer or ceramist with experience in design or operation of heating equipment.

The Bureau also has various positions for recent graduates either bachelor's, master's, or doctor's, within the last two years.

It should of course be understood that Institute members would receive introductions to these employers only under the conditions of the Bureau's regular contract.

POSITIONS WANTED

5X30 Institute member, now teaching, wishes position in industrial work for the summer. Also will consider permanent position with some company which will offer opportunity for advancement. Communicate with Howard S. Nieman, Secretary.

5Y30 Institute member, 35, married, five years' experience in acids, heavy chemicals, dye intermediates; analytical, research assistant. Five years' development production, water color pigments. *Desires position, production supervisor, or analytical chemist.* Location, Greater New York preferred. Available now. Communicate with Howard S. Nieman, Secretary.

Someone Wants a Start

A girl, completing her junior year in college, majoring in chemistry, is anxious to secure a position in some branch of industrial work for the summer. She knows scientific French and German, and has had some experience in typing and bookkeeping.

Won't some Institute member give this future chemist a start in the right direction? Communicate with Miss Cramer at The Chemists' Club.

THE MEMBERS' FORUM

This department has been introduced as a meeting place for frank discussion of Institute activities, published articles, etc. Your co-operation in helping to make it a success will be some evidence that chemists are not quite so inarticulate as is commonly supposed.—EDITOR

Dr. M. L. Crossley, Chairman, Committee on Education,
American Institute of Chemists

DEAR DR. CROSSLEY:

I enjoyed very much reading the preliminary report of your Committee on Education which appeared in the March issue of *The* CHEMIST.

During the four years that I have spent in academic life here at Illinois I have been deluged by societies and individuals with suggestions as to how I could function in a more efficient manner. At first this unsolicited help irritated me considerably, but now I have become immune and can really enjoy the ideas of others even though I cannot agree with them.

We are all of us human; for example, I take great pleasure myself in telling others how to do their work. I take particular pleasure if it is a field in which I know practically nothing because I can talk much more fluently and have many more ideas. I am not hampered by detail knowledge.

You will pardon me, therefore, if I make one suggestion to your Committee and that is that they give serious consideration to the most vital factor in American education at the present time—the economics involved.

No curriculum, no matter how beautifully arranged, will ever produce well-trained products if the teaching staff is inadequate. The quality of the teaching staff comes first and the acquiring of such a staff is merely a question of money.

May I ask your Committee how they expect the universities to obtain a man who will inspire students and be a great leader for $3600.00 a year? Is it necessary, as someone has said, for us to hire teachers who marry for money and work for love?

It is not only a question of not having the money to pay for an adequate staff because we need money also to subsidize graduate students.

No one has ever taken the trouble or had the desire to see to it that our universities pay adequate salaries. All that would be necessary to change this situation would be to have our great industrial leaders demand that the situation be changed. At the present time they seem to consider that a university is a pile of brick. As a matter of fact the brick is a mere camouflage to conceal the university. The university is the faculty, nothing more, nothing less.

Your Committee could do a great work for chemical education in this country if it brought this simple fact to the attention of the industrial leaders. Once we have the necessary funds to hire adequate men, any criticism of chemical education which now exists will fast disappear.

I realize it is much simpler and perhaps pleasanter to tell the poor old professor what to do and how to do it than it is to walk into the industrial magnate's office and suggest in a meek manner that he change his attitude toward the pedagogue. Nevertheless, it must be remembered that playing with curricula does not "buy the baby any shoes."

Sincerely yours,
D. B. KEYES

University of Illinois,
Urbana, Ill., April 1, 1930

TO THE EDITOR OF *The* CHEMIST:

Your account of the award of the medal of the American Institute of Chemists, appearing in the February CHEMIST, interests me so much that I wish to reprint it—with proper acknowledgments—in THE NUCLEUS for the benefit of its eighteen hundred readers. I trust that such procedure meets with your approval.

It will be very easy for you to understand how Mr. Eastman means much to many members of the Northeastern Section of the American Chemical Society.

Very truly yours,
AVERY A. ASHDOWN,
Editor of THE NUCLEUS

Massachusetts Institute of Technology,
Cambridge, Mass.
March 29, 1930

TO THE EDITOR OF *The* CHEMIST:

I have just finished the April number of *The* CHEMIST and though I am only a High School student just now and I know that there is a tremendous amount of plain, straight, hard work connected with the profession of chemistry, I am determined to go on with my study and become one myself as it is the most interesting sort of work that I think a person could ever ask for.

I have at different times seen such advertisements as you printed on page 26, but after reading such books as *Your Money's Worth* and working on an advertising job I have learned to divide all advertising claims by two and then erase the answer to get the true value of the product by bitter experience alone.

The real object of this letter is to find out if there is any charge for *The* CHEMIST; and if so, how much? I have not had as yet the necessary training to belong to your organization but as soon as I have completed my training you may rest assured that I shall not waste any time in joining the organization. And if one is not as yet eligible to join is it permissible to receive your magazine?

Yours truly,
JOHN BALLARD

2437 Langdale Ave.,
Eagle Rock, Calif.

TO THE EDITOR OF *The* CHEMIST:

I recently received a copy of *The* CHEMIST and was surprised and pleased to learn that there is in existence an organization such as yours. Will you kindly send me the following information:. . . . . .

I myself am a chemist in the Philippine Civil Service, with some 10 years' experience in the States and here;. . . .

Very respectfully yours,
RAY N. ALLEN

Bureau of Science,
Manila, P. I.
March 17, 1930

Tilla Hefter found this in the Want-Ad columns of a famous daily:

Chemist, preferably college graduate, etc., etc.

We withhold the rest for fear some of our militant members might go around there some dark night.

Protection of the Title "Chemist"

For decades there have been endeavors to establish a governmental examination for chemists and, in connection therewith, a legally protected title for those who pass it. *Chemiker-Zeitung* was in favor of it as early as 1879, and organizations of chemists and other periodicals have taken up the proposition subsequently, but without avail up to the present time.

The only protected professional title for chemists, for which an examination is required, is that of "examined food chemist," but this designation is of value to only a restricted portion of the large field. Another protected professional title for chemists, not requiring a special examination, is the appellation "sworn trade chemist," which, however, is applicable to analytical chemists only.

The Economic Committee of the Provisional Council of Government Administration recently took up the matter of the legal protection of certain professional titles, but decided not to recommend such protection for independent public chemists. The governmental councilor, Doctor Merres, has recently discussed the entire complex problem again in detail. He points out that the need for chemists by the national and state governments is increasing considerably and that, above all, the requirements that these authorities must demand of the chemists are extremely varied.

Merres therefore recommends the establishment of two classes of government examinations, the first of which would be the same for all candidates for government positions, the second, however, being adapted to the different tasks of the individual administrative fields of activity and taken after serving a preliminary period of practical preparation. Such a regulation would not entail any disadvantages in the training of chemists and would work only for their professional welfare, since at the present time anyone who desires to do so may call himself a chemist, without any hindrance.—*Industrial and Engineering Chemistry.*

Imagine the Germans letting anything like this go for so long!

Chemistry for Everywoman

For the women of America, the announcement that the American Chemical Society is ready to sponsor, through its division of education, a "chemistry study" plan for clubs is highly significant, and important. Chemistry has been too busy for some years with its miraculous laboratory researches to bother about popular understanding. The public has of necessity accepted what laboratory magic offered without comprehending much of what was going on behind the curtains. Women, in particular, in their household affairs have been immeasurably benefited by the products of chemical research, but have not been instructed in the scientific origin of their benefaction.

But the chemists have realized, evidently, that what they do is more interesting to the public than they have made it. They have arranged a women's study course in American chemistry, and arranged for the sale of a set of books at a price far below the regular price of the volumes. Women's clubs, if they are willing to desert immemorial study topics for a season, may learn what is being done to affect their home life, to make it easier and more pleasant. Such topical divisions as "Dinner Plates and Drain Pipes," "Feeding the Family," and "Clothing the Family" are included in the study course arranged by the Bureau of Women's Clubs of the University of Arkansas, and the Division of Chemical Education of the American Chemical Society. The former agency, if requested, will send any group a full outline of the course. Chemistry

has indeed become confidential. It is ready to tell some of its secrets, and most of them are worth hearing.—Editorial in *The Atlanta Journal.*

What with *The Chemistry Leaflet* for the younglings, *The Journal of Chemical Education* for the older ones and for those who teach them, *The* CHEMIST, and A.C.S. publications, and innumerable other scientific and trade papers for the professional people—and now this elaborate course of study for the so-called women of leisure—there should be no escape anywhere from personal knowledge of chemistry!

According to a letter received recently, *The* CHEMIST errs by being different in format, content, etc., from the other periodicals which chemists read. Paradoxically enough, the most serious objection was that it is too serious; it contains nothing frothy, no chemical jokes, etc.

Personally we love jokes, and we should be delighted to publish a few each month if we could find some that are not worn out from being passed around. Send in whatever you can find, and we shall use them—within the limits of editorial discretion.

There is only one restriction—these must be jokes about *chemists.* If you can find any, it will be a healthy indication that times really have changed. There was a time when chemists were supposed to be such sacred persons, with such ready access to KCN and everything, that planning to play a joke on one could have been construed as attempted suicide.

PERSONAL

MORRIS A. POZEN, formerly of the Schwarz Laboratories, announces that he has opened his own research laboratory and consulting office at 30 Irving Place, New York City, where he is prepared to furnish information to the Food, Beverage, Fermentation, and related industries; also technical advice, expert testimony, etc.

MARY A. ROLLAND has taken a position with Reed and Carnrick, Jersey City, N. J.

Addresses Wanted for:

PROF. WILLIAM H. WALKER, *formerly* of Bridgton, Maine.

ANDRES SOLOMONOFF, *formerly* 3809 Cypress Avenue, Sea Gate, Coney Island, N. Y.

"*The* CHEMIST IS YOUR PAPER; MAKE IT YOUR PAPER!"

THE NEW MEMBERS

Fellows

ARTHUR W. BURWELL, Technical Director and Vice-President, Alox Chemical Corporation, Iroquois Street and Buffalo Avenue, Niagara Falls, N. Y.

JOHN EDWIN DOWD, Assistant Director, Department of Biochemistry, Pease Laboratories, Inc., 39 West 38th Street, New York, N. Y.

LOUIS V. EBERT, JR., Chief Chemist and Chemical Engineer, Ivanhoe Foods, Inc., 12 Cottage Street, Auburn, N. Y.

WALTER E. HADLEY, Chief Chemist, The Clark Thread Co., 260 Ogden Street, Newark, N. J.

WINFIELD SCOTT HUBBARD, Chief Chemist, Schwarz Laboratories, Inc., 202 East 44th Street, New York, N. Y.

GASTON GEORGE MERMINOD, Chemist, c/o Bakeries Service Corporation, 26 Douglas Street, Jamaica, L. I., N. Y.

HARRY O. MORAW, Section Chief, Chemical Division, Bureau of Foreign and Domestic Commerce, Washington, D. C.

CARL A. NOWAK, Director, Nowak Chemical Laboratories, 516–17 Chemical Building, St. Louis, Missouri.

EMANUEL PASSAMANECK, Biochemist, Reed & Carnrick, 155 Van Wagenen Avenue, Jersey City, N. J.

IRA PAUL, Chief Chemist, Metal & Thermit Corporation, 92 Bishop Street, Jersey City, N. J.

Raised from Associate

WALTER WILLIAM PLECHNER, Research Chemist, Titanium Pigment Co., 105 York Street, Brooklyn, N. Y.

Associate

WILLIAM F. HART, Director Analytical Laboratory, Reed & Carnrick, 155 Van Wagenen Avenue, Jersey City, N. J.

Juniors

CLAIR C. CATHERMAN, Chemist, Martin Cantine Co., Saugerties, N. Y.

FREDERICK WILLIAM KINARD, Assistant in Chemistry, Medical College of South Carolina, Charleston, S. C.

Keep your year-book up to date by pasting these new names in it.

NOTES FOR YOUR YEAR-BOOK

Please enter these changes in the addresses of our members.

HENRY D. BODDINGTON (page 19), 2541 Grand Avenue, Huntington Park, Calif.

S. R. CHURCH (page 21), Room 604, 370 Lexington Avenue, New York, N. Y.

A. E. GUEST (page 25), Mellon Institute, Pittsburgh, Pa.

A. W. JOYCE (page 27), 17 E. 17th St., New York, N. Y.

P. J. LENIHAN (page 41), 51-64 44th St., Laurel Hill, L. I., N. Y.

ROBERT J. MACKEY (page 41), c/o Sun Ray Neon, Ltd., 3 St. Roch St., Quebec City, Quebec, Canada.

M. MARGOLIN (page 30), 2069 Honeywell Avenue, Bronx, N. Y.

S. D. NEWITT, c/o American Powder Co., Maynard, Mass.

MORRIS A. POZEN (page 34), 30 Irving Place, New York, N. Y.

S. D. SHINKLE (page 36), 317 Lafayette Avenue, Passaic, N. J.

NOAH I. SILVERMAN, 215 W. 98th Street, Apartment 6 F, New York, N. Y.

THE ELECTION BALLOT

For President

FREDERICK E. BREITHUT (re-election), College of the City of New York

WILLIAM M. GROSVENOR, Consulting Chemist, New York

FREDERICK W. ZERBAN, Chief Chemist, Sugar Trade Laboratory, New York

For Vice-President

WILLIAM M. GROSVENOR (re-election)

M. L. CROSSLEY, Chief Chemist, Calco Co., Bound Brook, N. J.

HANS T. CLARKE, Professor of Biochemistry, Medical Center, New York

For Secretary

HOWARD S. NEIMAN (re-election), Patent Attorney; Editor of *The Textile Colorist*

For Treasurer

JOSEPH F. X. HAROLD, Consulting Chemist, New York City

LEON V. QUIGLEY, Technical Editor, Bakelite Corporation, New York

EDWARD J. MUHS, The Chemical Foundation, New York

For Councilors

HENRY ARNSTEIN, Consulting Chemist, Philadelphia, Pa.

ROSS A. BAKER (re-election), Syracuse University, Syracuse, N. Y.

HANS T. CLARKE

WILLIAM FOSTER, Princeton University, Princeton, N. J.

HENRY G. KNIGHT, Bureau of Chemistry and Soils, Washington, D. C.

HERBERT R. MOODY (re-election), College of the City of New York

RETURNS TO BE ANNOUNCED AT ANNUAL MEETING
Bellevue-Stratford Hotel, Philadelphia
May 10, 1930

EDITORIAL

The Great American Amateur

For weeks we have been saving bits of news about Mr. Eastman for a special article in this issue, but now that the time has come, everything that we wanted to say has been said, or is being said by someone else.

Reviewing events in retrospect, it would seem that the recent publicity started with the announcement of the award of the Institute medal. It could add nothing to his glory, but the fact that an organization of professional chemists had chosen thus to honor a man who is not a chemist just happened to be announced at the psychological moment. Like the rocket whose bursting in the air sets the brilliant sparks falling, the scintillating bits about Mr. Eastman are still falling, and we hope that they will continue to fall in great numbers, now that the public have been permitted to know more about him.

Much of the recent news about Mr. Eastman has been in connection with the fiftieth anniversary of his camera. It is a characteristic gesture—giving every certified twelve-year-old of 1930 a new "Hawk-Eye" to stimulate and encourage an interest in photography.

It is given to few men to see so many of their dreams come true, and to derive so much good from the fruits of their labors during their own lifetime. But Mr. Eastman sees it all, as Mr. Edison saw it last year, and although these two men started out in seemingly unrelated fields, their interests have been brought into contact through the great motion picture industry, which neither could have foreseen at the beginning of his career.

Dr. Mees' article (page 3) touches deftly on the various fields of endeavor in which Mr. Eastman modestly considers himself an amateur. The list covers many arts and sciences: photography, architecture, and music; chemistry, physics, and botany—even cooking. And in the latter we sense some subtle connection between his philanthropic interests in Mechanics Institute and his passion for chocolate cake and lemon meringue pie.

Carl Ackerman's new book, with an introduction by Doctor Edwin R. A. Seligman, tells the world everything else that is worth knowing about Mr. Eastman—rather, all that Mr. Eastman wishes the world to know. He has that unusual power of viewing himself dispassionately and objectively. What he says of his achievements is presented with the greatest simplicity, and as soon as it was possible to share the credit for the work with others, he showed a generosity which places him in a class by himself among great industrialists.

Much as they might hate to admit it, most true scientists are not very practical. Perhaps Mr. Eastman

has been wiser in preferring to stay within the amateur class, for he is eminently practical. Behind his lavish gifts to certain educational institutions has been the sure realization of just what he was doing, and why. Because he wanted the University of Rochester to be among the first in the country, he has given it over $35,000,000. Because he believes the Massachusetts Institute of Technology to be the finest school of its kind in the world, he has given it over $19,000,000. Because he believes that the negroes are worthy of help in their own efforts at self-improvement and development, he has given several millions more to Hampton and Tuskegee Institutes. No worthy cause or charity has been forgotten, particularly if sufficient support has been given by its promoters to warrant the encouragement.

Through his love of science, Mr. Eastman has satisfied his love for art, and through both the artistic and the scientific, he has been the throughly practical business man. It was impossible for him not to make a success of whatever he undertook, and ". . he has been one of the greatest forces of his generation. Besides creating an art and an industry, he was the first American manufacturer to put into practice the policy of large-scale, low-cost production for a world market and to employ for the purpose scientific research and extensive advertising."

It was his love of science, and his appreciation of what scientists had done for him in the development of his enterprises, which prompted him to assume the responsibility (in 1918) for supplying American universities and practising chemists with the rare and expensive organic chemicals which could no longer be imported from Germany.

All the romance of the late war is not within the covers of the diaries, soul-*exposés*, and other reminiscent bits of literature which threaten to engulf the world in an ever-rising tide. Much of it was developed right here, in the efforts of American scientists and industrialists to free themselves from economic dependence on the warring nations of Europe.

Many, and lurid—and flattering—were the stories of sabotage and espionage current in those days. Perhaps the most flattering was the claim that the Germans had always known just what research problems were being undertaken here, by the chemicals which were purchased from them. But the demands stopped, and it was some time later before it was generally known that the great American amateur had come to the rescue.

The financial loss incurred during several years would have discouraged a company with limited resources, but the work has been cheerfully continued. Whatever truth there might have been in the stories of the super-intelligence of the German chemical manufacturers, the possibilities vanished as the new department of the East-

man Company expanded and made more and more of these badly needed synthetic organic chemicals.

It is because of the very great good which he has done in this least known of his many enterprises, that the Institute has chosen to give Mr. Eastman its medal for "noteworthy and outstanding service to the science of chemistry and the profession of chemist in America." It is with sincere regret that we must announce that Mr. Eastman cannot be present to receive the medal in person.

To quote from his latest letter:

Our Vice-President and General Manager, Mr. Frank W. Lovejoy, has kindly consented to act for me on that occasion; and I understand that you have already arranged with Dr. Mees, Director of our Research Laboratory, to make an address on our work in connection with Chemistry.

With keen appreciation of the honor that is being conferred upon me by the Institute, I am,

Very sincerely yours,
GEORGE EASTMAN

HELP WANTED

REPORTERS FOR *The* CHEMIST. **Qualifications:** must be argus-eyed and completely *chemist-conscious;* **Duties:** collect and send news items to the Editor—anything and everything of interest to the membership; **Compensation:** nothing guaranteed beyond heartfelt thanks, credit for the contributions, and some of that inner cosiness which always results from Doing Good for a Cause.

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THE CHEMIST

By EDGAR A. GUEST

In a laboratory from day to day,
With tubes and filters and twisting coils
There waits and watches a chemist gray,
Seeking for truth as his mixture boils,
And nobody knows, for nobody hears,
Of the countless failures that mark his years.
Now, gold is found by a lucky stroke,
And some grow rich in a single day,
Fame can be won with a song or a joke.
But the chemist has chosen a sterner way,
He watches and works in his workshop dim
And a thousand failures mean naught to him.
His dreams prove false and he starts anew,
Over and over his tests he tries,
For the hardest thing in the world to do
Is to find the truth when it buried lies,
And never by chance is the chemist moved,
He must wait for years till his work is proved.
Success comes often to men in trade
The skillful hand can its deeds repeat,
A builder can point to the things he's made
But the chemist works in his dim retreat.
And his failures are many, his victories few
For his lifetime will give him but one or two.

Dr. Brolles unearthed this effusion by America's famous "folks-ey" poet. Who can date its vintage? And who do you think ever put Eddie up to writing anything like that?

HELP TO MAKE CHEMISTS LESS PATHETIC!!
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HOWARD S. NEIMAN, *Secretary*
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